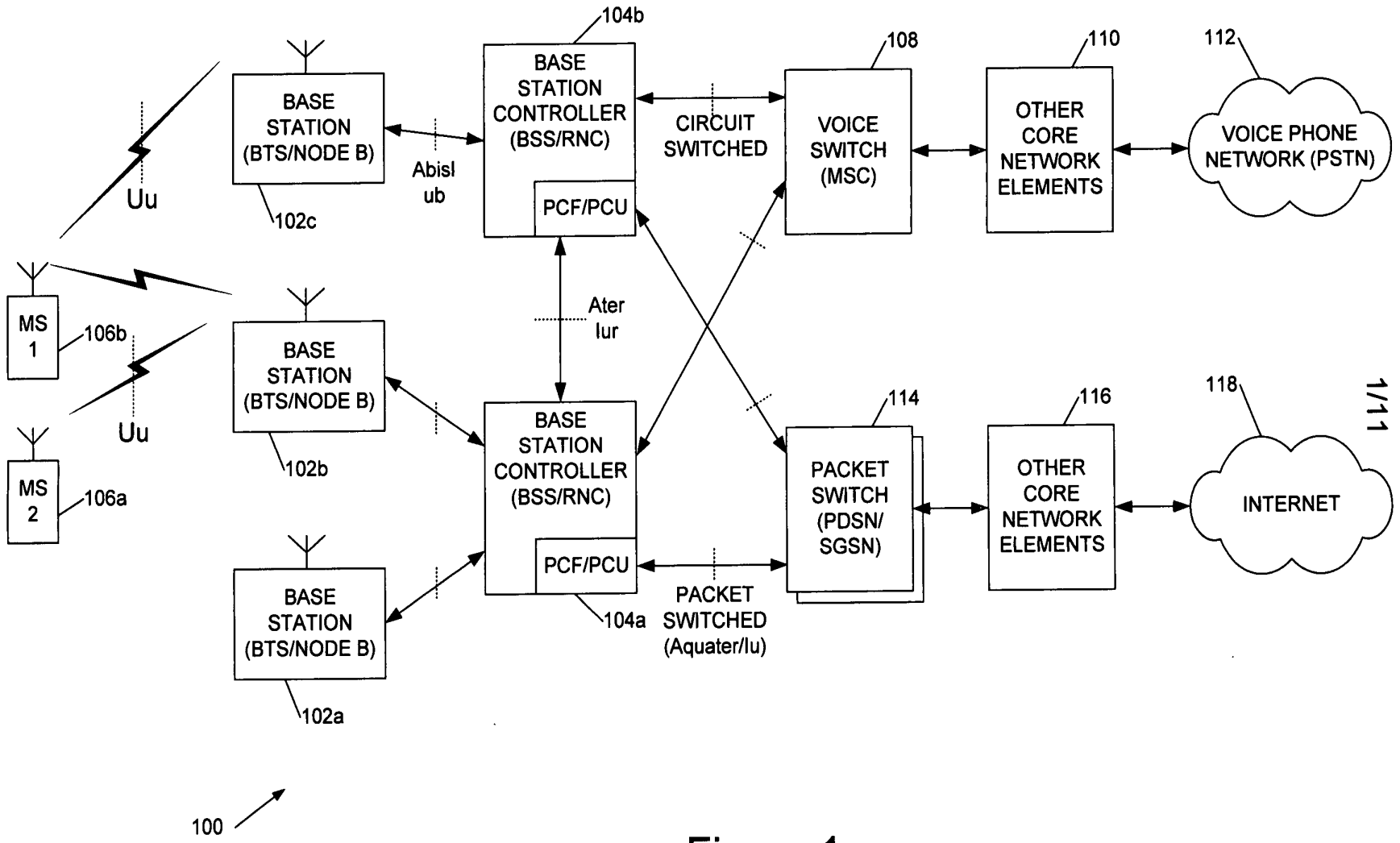
BASE STATION (BTS/NODE B)
102c
Abisl ub
BASE STATION CONTROLLER (BSS/RNC)
104b
PCF/PCU
CIRCUIT SWITCHED
VOICE SWITCH (MSC)
108
OTHER CORE NETWORK ELEMENTS
110
VOICE PHONE NETWORK (PSTN)
112
Uu
MS 1
106b
Uu
MS 2
106a
BASE STATION (BTS/NODE B)
102b
Ater Iur
BASE STATION CONTROLLER (BSS/RNC)
PCF/PCU
104a
PACKET SWITCH (PDSN/ SGSN)
114
OTHER CORE NETWORK ELEMENTS
116
INTERNET
118
PACKET SWITCHED (Aquater/Iu)
BASE STATION (BTS/NODE B)
102a
100

Figure 1

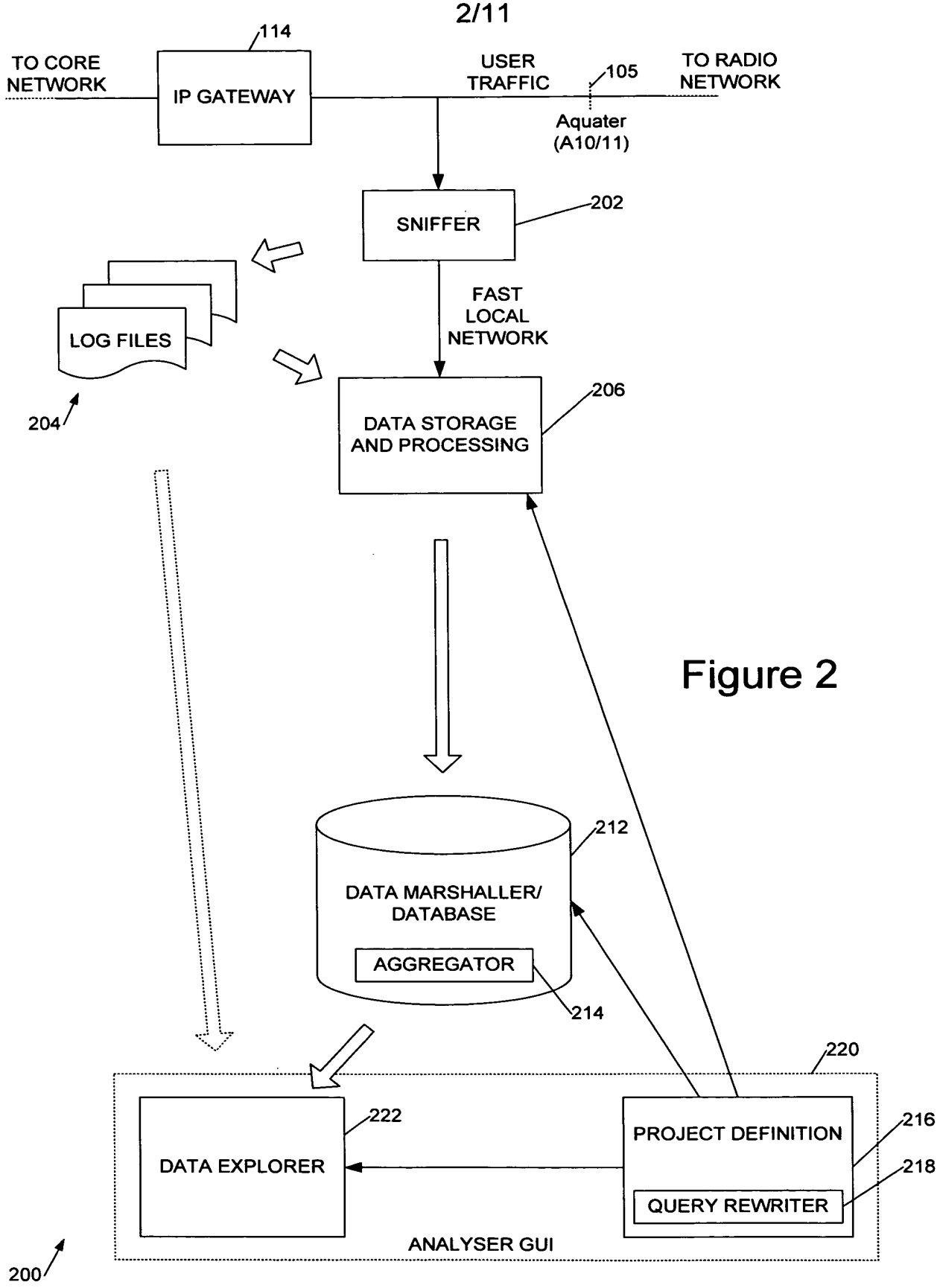
114
TO CORE NETWORK
IP GATEWAY
USER TRAFFIC
105
TO RADIO NETWORK
Aquater (A10/11)
SNIFFER
202
LOG FILES
204
FAST LOCAL NETWORK
DATA STORAGE AND PROCESSING
206
212
DATA MARSHALLER/ DATABASE
AGGREGATOR
214
220
DATA EXPLORER
222
PROJECT DEFINITION
216
218
QUERY REWRITER
ANALYSER GUI
200

Figure 2

BEST AVAILABLE COPY

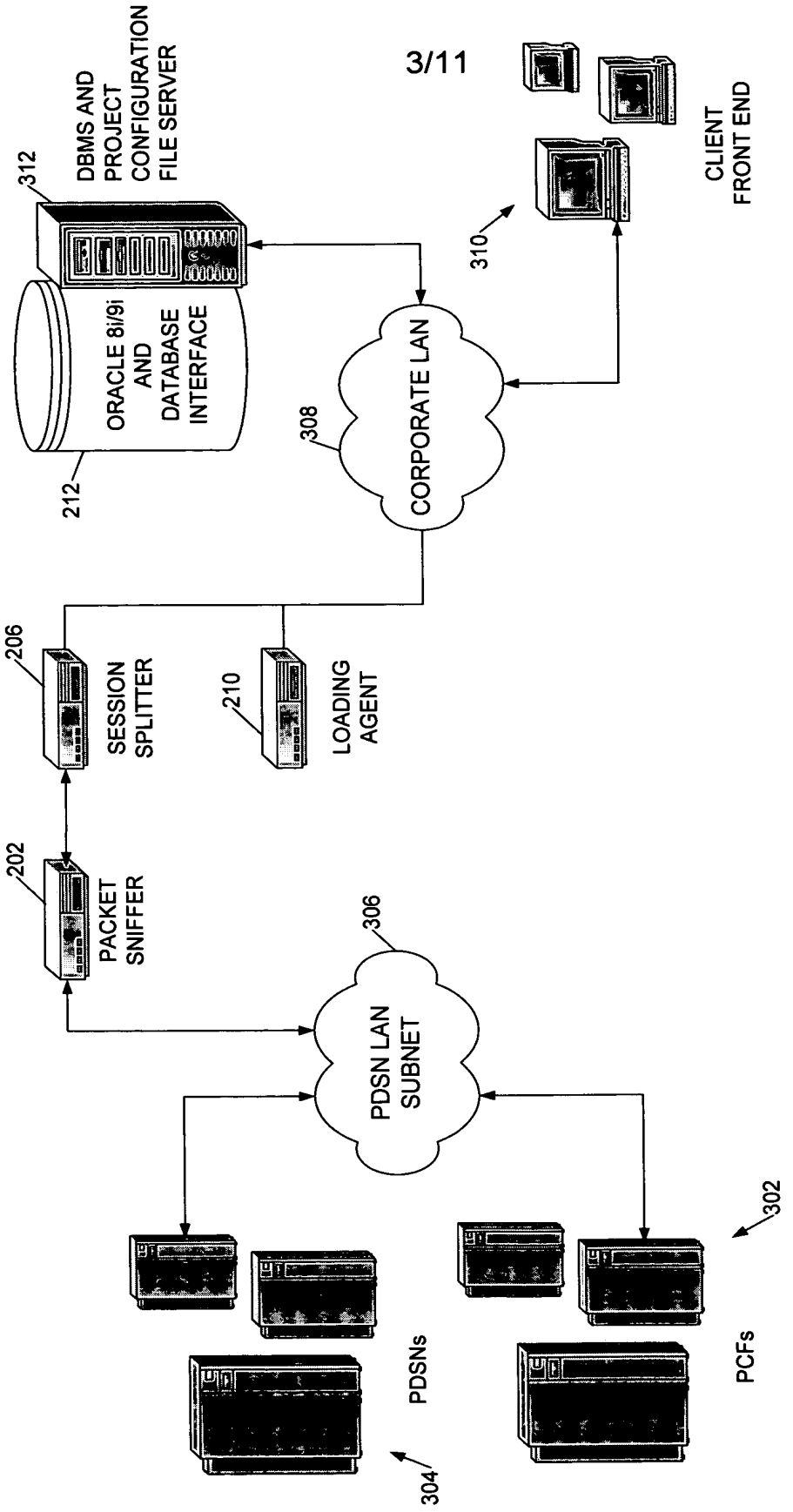

Figure 3

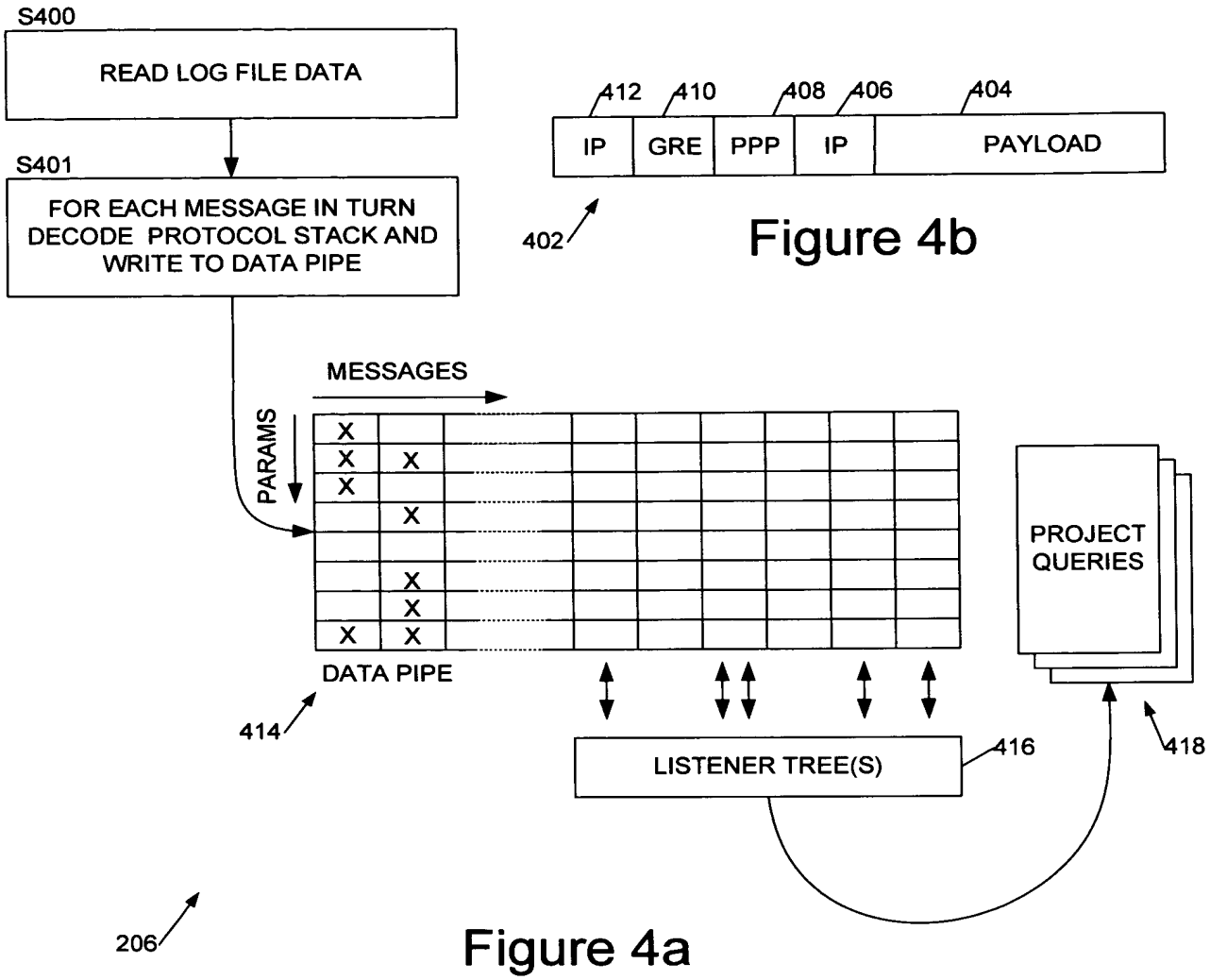

Figure 4a

Figure 4b

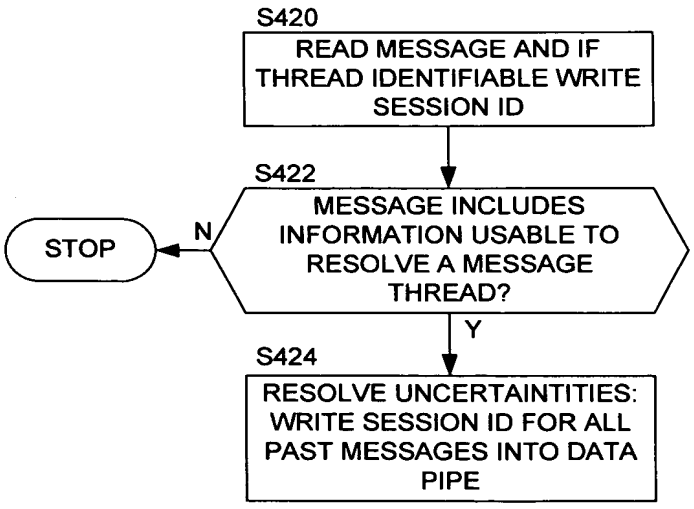

Figure 4c

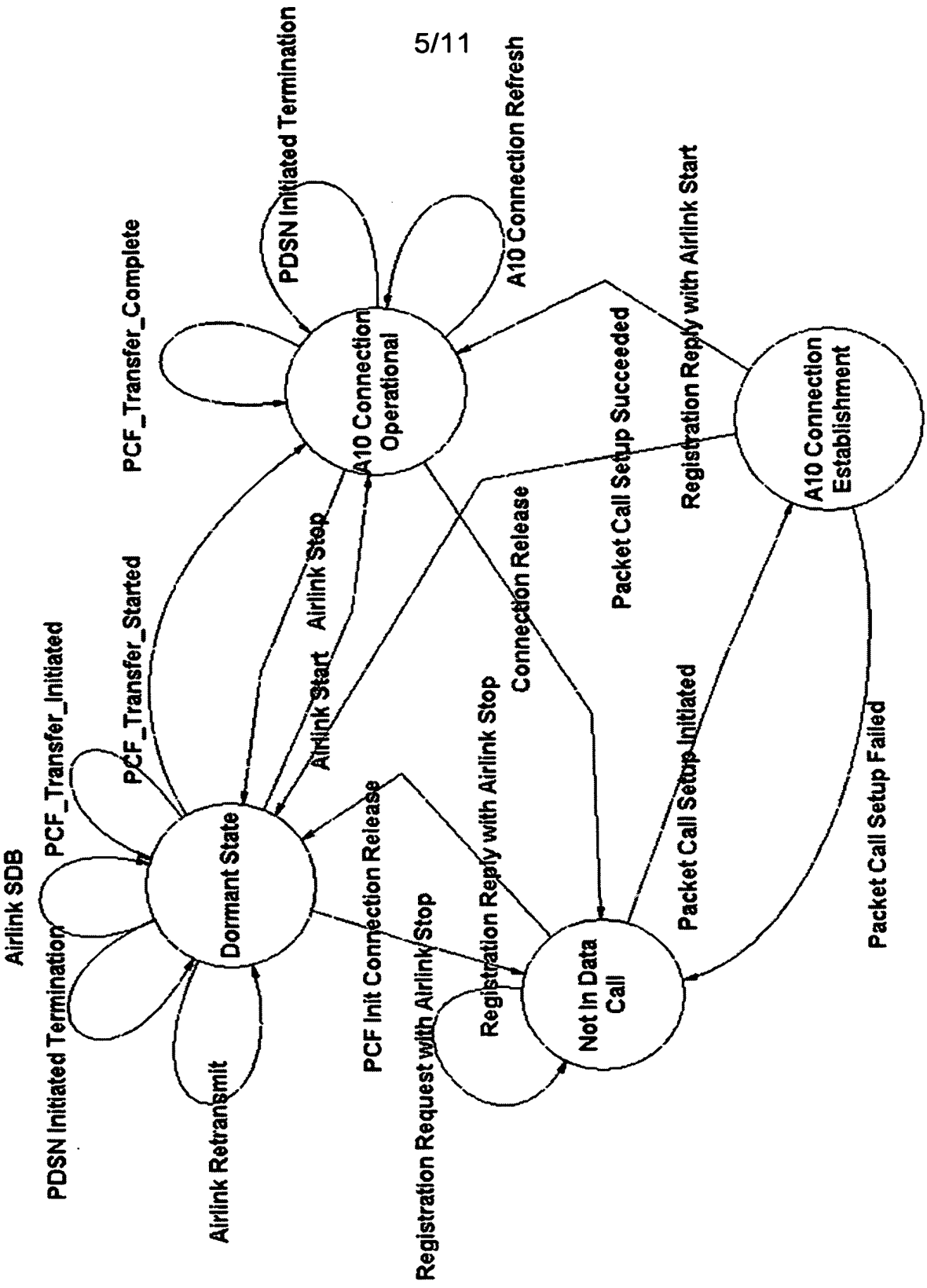
Airlink SDB
PDSN Initiated Termination
PCF_Transfer_Initiated
PCF_Transfer_Started
PCF_Transfer_Complete
PDSN Initiated Termination
A10 Connection Refresh
Dormant State
A10 Connection Operational
A10 Connection Establishment
Airlink Retransmit
Airlink Start
Airlink Stop
PCF Init Connection Release
Registration Request with Airlink Stop
Registration Reply with Airlink Stop
Connection Release
Packet Call Setup Succeeded
Registration Reply with Airlink Start
Packet Call Setup Initiated
Packet Call Setup Failed
Not In Data Call

Figure 5a

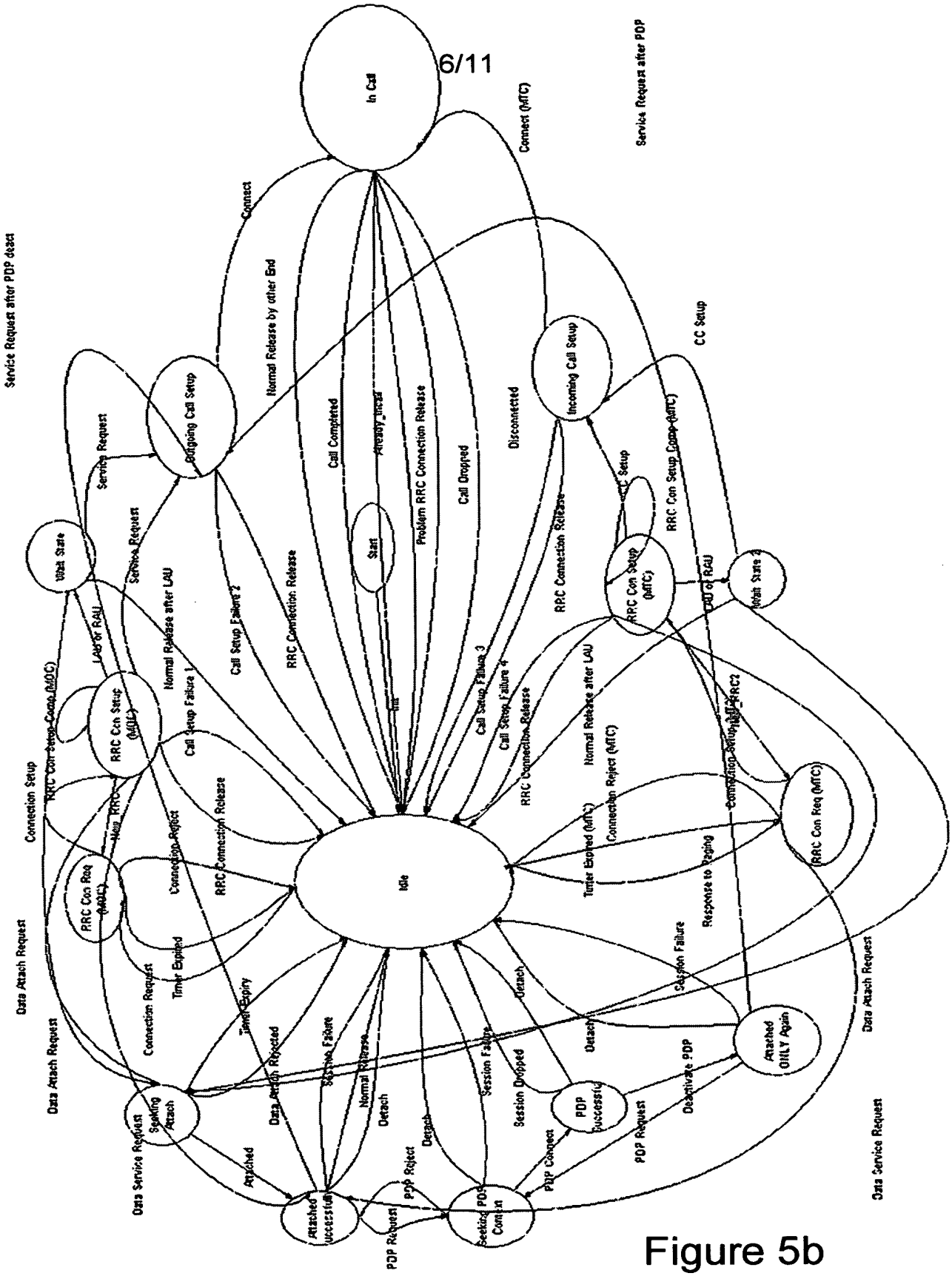
In Call
Idle
Outgoing Call Setup
Incoming Call Setup
Wait State
Wait State 2
RRC Con Setup (MOC)
RRC Con Setup (MTC)
RRC Con Req (MOC)
RRC Con Req (MTC)
Attached Successful
Attached Oll LY Again
Seeking Attach
Seeking PDP Context
PDP Successful
Service Request after PDP dact
Service Request after PDP
Connect
Connect (MTC)
Normal Release by other End
Call Completed
Already_Used
Start
Problem RRC Connection Release
Call Dropped
Disconnected
CC Setup
Service Request
Normal Release after LAU
Call Setup Failure 1
Call Setup Failure 2
Call Setup Failure 3
Call Setup Failure 4
RRC Connection Release
Connection Reject
Timer Expired
Timer Expiry
Data Attach Request
Data Attach Rejected
Session Failure
Normal Release
Detach
Session Dropped
PDP Request
PDP Reject
PDP Connect
Deactivate PDP
Data Service Request
Response to Paging
Connection Reject (MTC)
Timer Expired (MTC)
Connection Setup_MTC
Connection Setup_MOC
Attached
LAU or RAU
Data Attach Request
Data Service Request

Figure 5b

BEST AVAILABLE COPY

Protocol Stack Browser - 251002_packet_call_Kutoja_1:Nemo3GPP (0) - Uu RRC

Sync Msgs | Show Gridlines | All Rows | Find Next | Find Prev

251002_packet_call_Kutoja_1:Nemo3GPP (0)

Msg No.	Absolute	Relative	Offset	Message	RRC Cause	Layer 3	Events
000652	12:28:57.008	00:01:41.008	000000	BCCH-BCH SysInfoType1			
000653	12:28:57.008	00:01:41.008	000000	BCCH-BCH SysInfoType7			
000669	12:29:00.152	00:01:44.152	003144	UL-CCCH RRCConnectionRequest	RRC_registration		
000683	12:29:03.267	00:01:47.267	003115	UL-CCCH RRCConnectionRequest	RRC_registration		
000687	12:29:03.698	00:01:47.698	000431	DL-CCCH RRCConnectionSetup			
000688	12:29:04.318	00:01:48.318	000620	UL-DCCH RRCConnectionSetupComplete			
000693	12:29:04.679	00:01:48.679	000361	UL-DCCH InitialDirectTransfer		GPRS MM Attach request	
000694	12:29:04.679	00:01:48.679	000000			GPRS MM Attach request	
000695	12:29:04.959	00:01:48.959	000280	DL-DCCH DownlinkDirectTransfer		GPRS MM Attach Accept	
000696	12:29:04.959	00:01:48.959	000000			GPRS MM Attach Accept	
000697	12:29:04.969	00:01:48.969	000010	UL-DCCH UplinkDirectTransfer		GPRS MM Attach complete	GPRS Attach Successful
000698	12:29:04.969	00:01:48.969	000000			GPRS MM Attach complete	
000712	12:29:07.874	00:01:51.874	002905	UL-DCCH UplinkDirectTransfer		GPRS SM Activate PDP Context request	
000713	12:29:07.874	00:01:51.874	000000			GPRS SM Activate PDP Context request	
000714	12:29:08.524	00:01:52.524	000650	DL-DCCH RadioBearerSetup			
000715	12:29:08.565	00:01:52.565	000041	UL-DCCH RadioBearerSetupComplete			
000720	12:29:08.835	00:01:52.835	000270	DL-DCCH MeasurementControl			
000721	12:29:09.055	00:01:53.055	000220	DL-DCCH DownlinkDirectTransfer		GPRS SM Activate PDP Context accept	GPRS PDP Context Activation Successful
000722	12:29:09.055	00:01:53.055	000000			GPRS SM Activate PDP Context accept	
000726	12:29:09.246	00:01:53.246	000191	UL-DCCH MeasurementReport			
000731	12:29:10.377	00:01:54.377	001131	DL-DCCH RadioBearerReconfiguration			
000741	12:29:11.779	00:01:55.779	001402	UL-DCCH RadioBearerReconfigurationComplete			
000749	12:29:14.233	00:01:58.233	002454	UL-DCCH MeasurementReport			
000769	12:29:19.010	00:02:03.010	004777	UL-DCCH MeasurementReport			
000800	12:29:28.013	00:02:12.013	009003	UL-DCCH MeasurementReport			
000824	12:29:34.061	00:02:18.061	006048	UL-DCCH MeasurementReport			
000845	12:29:40.210	00:02:24.210	006149	UL-DCCH MeasurementReport			
000859	12:29:42.834	00:02:26.834	002624	UL-DCCH UplinkDirectTransfer		GPRS SM Deactivate PDP Context request	
000860	12:29:42.834	00:02:26.834	000000			GPRS SM Deactivate PDP Context request	
000861	12:29:43.264	00:02:27.264	000430	DL-DCCH DownlinkDirectTransfer		GPRS SM Deactivate PDP Context accept	GPRS PDP Context Deactivation Successful
000862	12:29:43.264	00:02:27.264	000000			GPRS SM Deactivate PDP Context accept	
000864	12:29:43.284	00:02:27.284	000020	UL-DCCH UplinkDirectTransfer		GPRS MM Detach request	GPRS Detach Successful
000866	12:29:43.284	00:02:27.284	000000			GPRS MM Detach request	GPRS Detach Successful
000867	12:29:43.485	00:02:27.485	000201	DL-DCCH RadioBearerRelease			
000872	12:29:43.675	00:02:27.675	000190	DL-DCCH DownlinkDirectTransfer		GPRS MM Detach accept	
000873	12:29:43.675	00:02:27.675	000000			GPRS MM Detach accept	
000878	12:29:44.937	00:02:28.937	001262	UL-DCCH RadioBearerReleaseComplete			
000879	12:29:45.227	00:02:29.227	000290	DL-DCCH RRCConnectionRelease			
000880	12:29:45.237	00:02:29.237	000010	UL-DCCH RRCConnectionReleaseComplete			

000295 12:28:04.873 GPRS MM - DETach REQuest UL-DCCH UplinkDirectTransfer

UL_DCCH_Message
- message: uplinkDirectTransfer
- cn_DomainIdentity_0: RRC_ps_domain

GPRS Protocol discriminator: GPRS Mobility Management Msg Type: Detach request Force to standby: Force to standby not indicated Power Off: normal detach, Detach Type: (MS->net: GPRS detach) or (net->MS: re-attach required)
Mobile Identity(0): 244, [1]: 24, [2]: 144, [3]: 75, [4]: 56

EI: Radio Cause, P-TMSI signature 2: 11288539
GPRS MM - DETach REQuest

Figure 5c

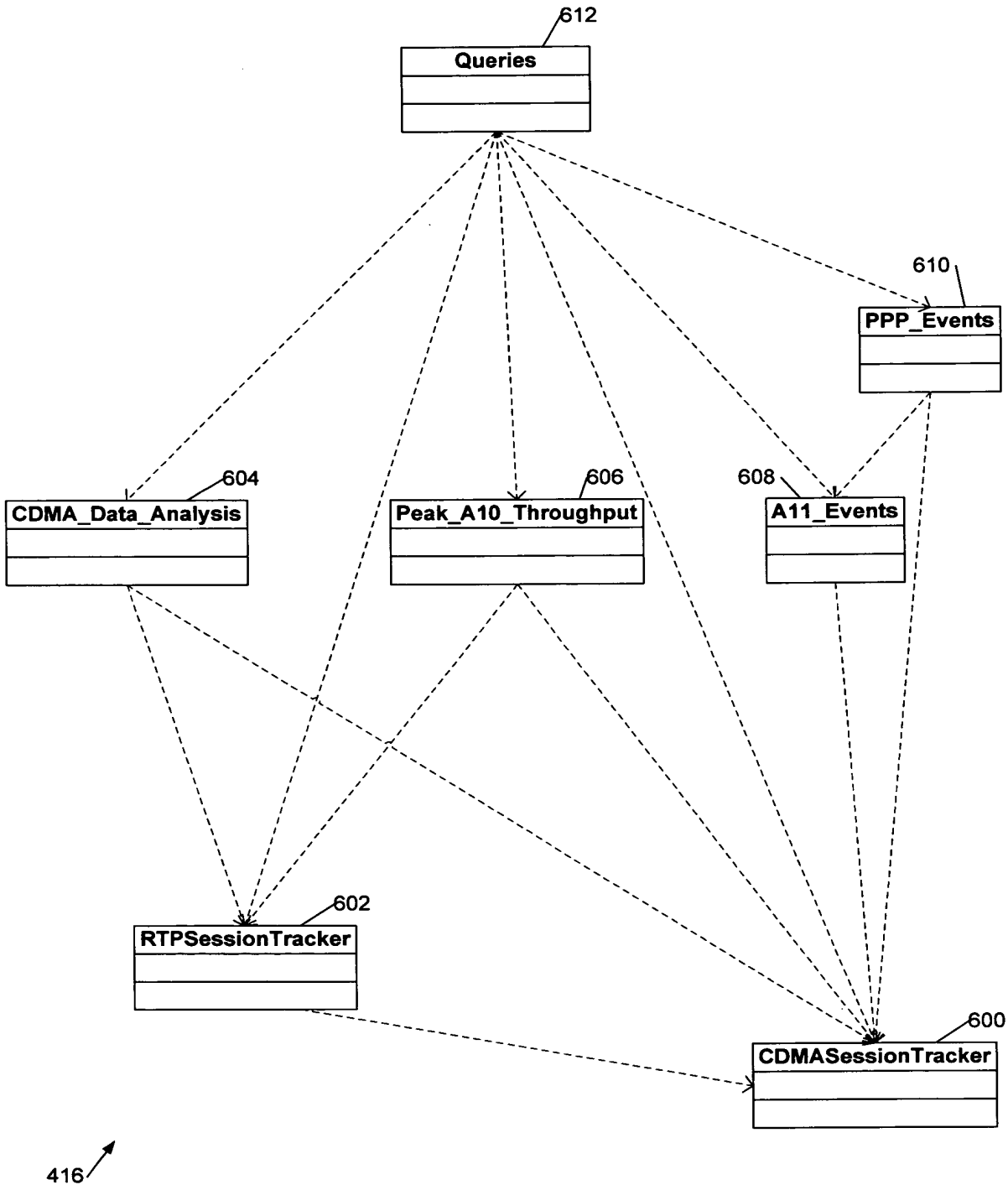
612
Queries
610
PPP_Events
604
CDMA_Data_Analysis
606
Peak_A10_Throughput
608
A11_Events
602
RTPSessionTracker
600
CDMASessionTracker
416

Figure 6

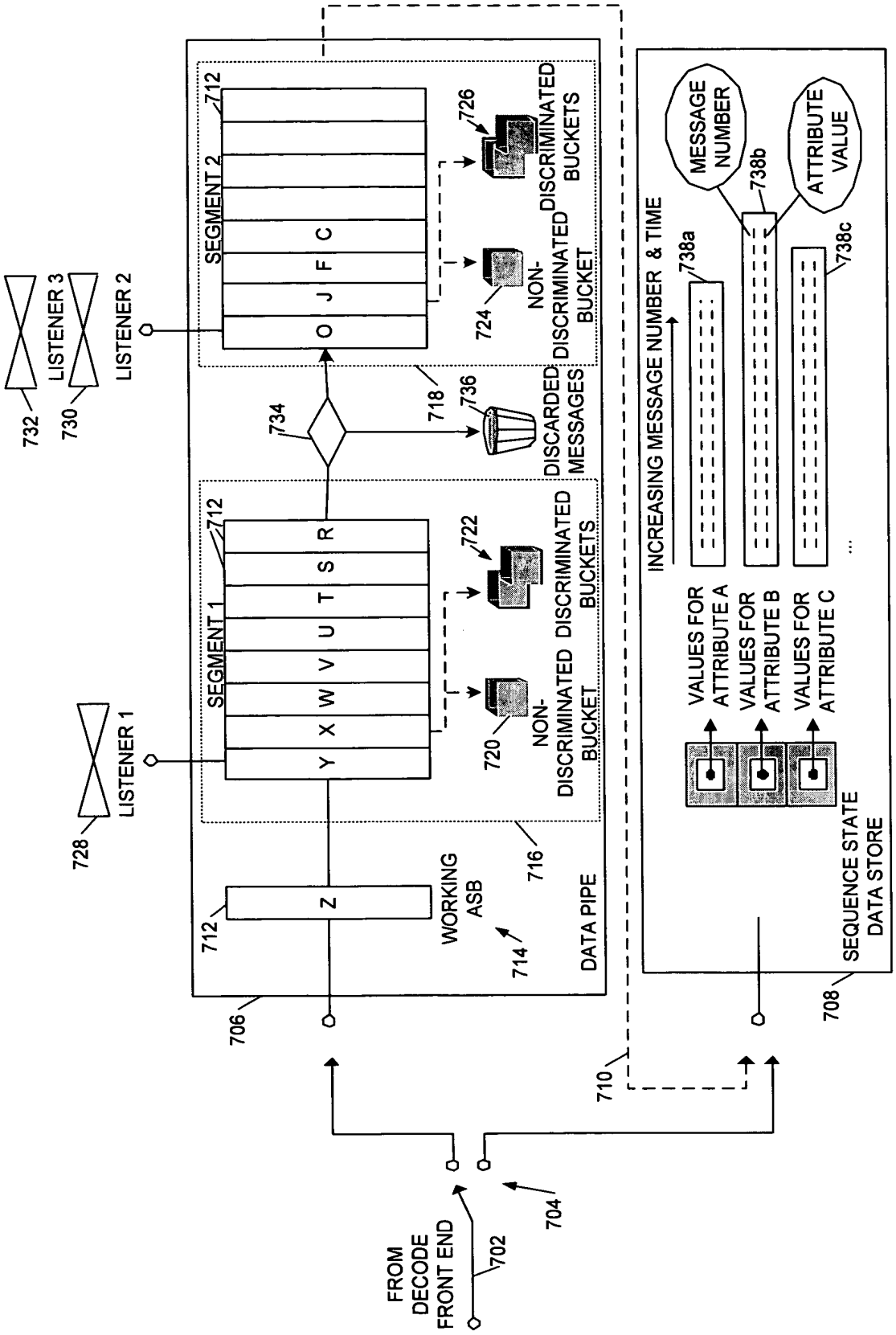
FROM DECODE FRONT END
702
704
700
710
706
708
DATA PIPE
716
WORKING ASB
714
712
Z
SEGMENT 1
Y X W V U T S R
SEGMENT 2
O J F C
NON-DISCRIMINATED BUCKET
DISCRIMINATED BUCKETS
720
722
724
726
718
DISCARDED MESSAGES
736
734
LISTENER 1
LISTENER 2
LISTENER 3
728
730
732
SEQUENCE STATE DATA STORE
INCREASING MESSAGE NUMBER & TIME
VALUES FOR ATTRIBUTE A
VALUES FOR ATTRIBUTE B
VALUES FOR ATTRIBUTE C
738a
738b
738c
MESSAGE NUMBER
ATTRIBUTE VALUE

Figure 7a

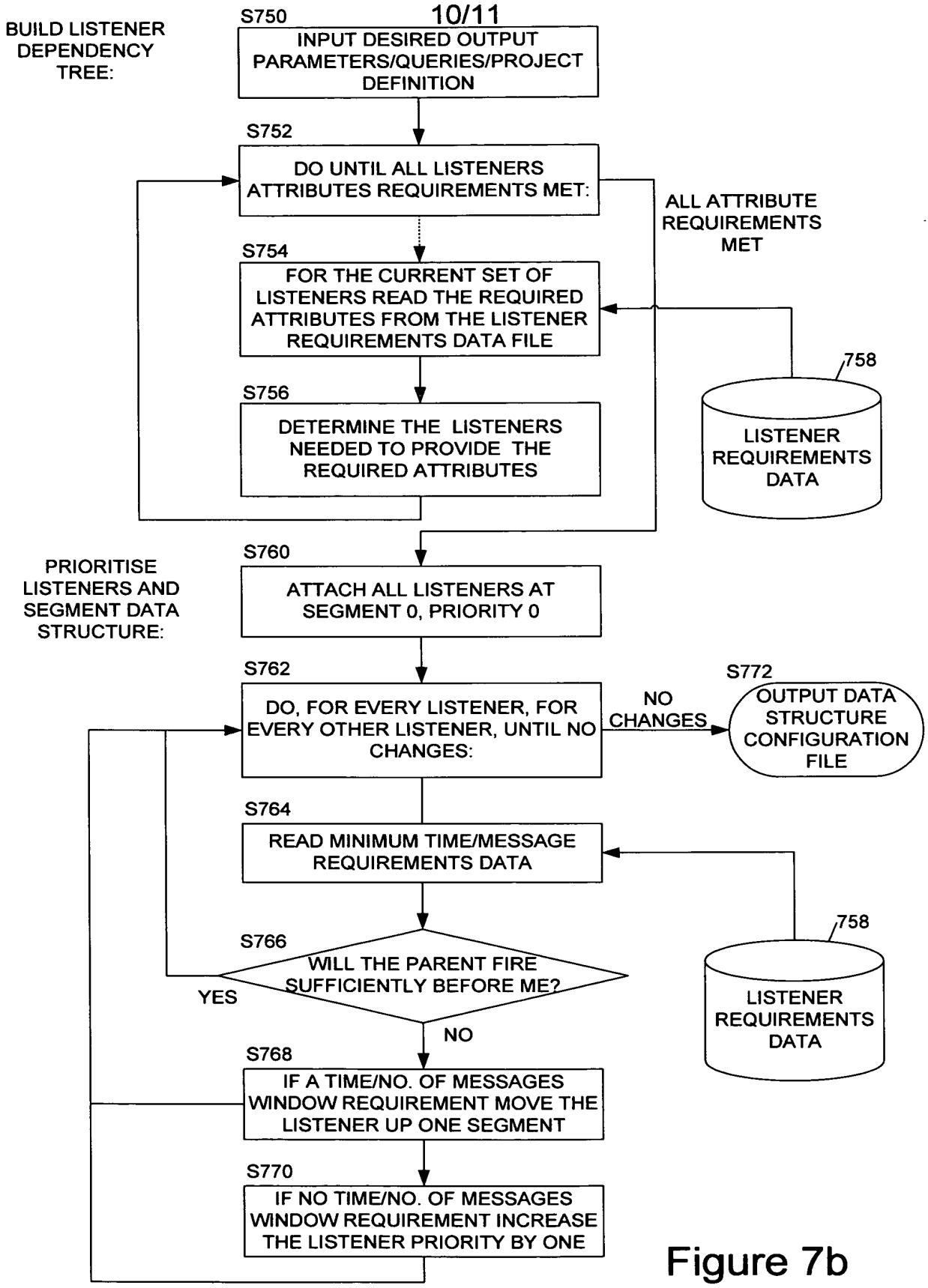
BUILD LISTENER DEPENDENCY TREE:
S750
INPUT DESIRED OUTPUT PARAMETERS/QUERIES/PROJECT DEFINITION
S752
DO UNTIL ALL LISTENERS ATTRIBUTES REQUIREMENTS MET:
ALL ATTRIBUTE REQUIREMENTS MET
S754
FOR THE CURRENT SET OF LISTENERS READ THE REQUIRED ATTRIBUTES FROM THE LISTENER REQUIREMENTS DATA FILE
758
LISTENER REQUIREMENTS DATA
S756
DETERMINE THE LISTENERS NEEDED TO PROVIDE THE REQUIRED ATTRIBUTES
PRIORITISE LISTENERS AND SEGMENT DATA STRUCTURE:
S760
ATTACH ALL LISTENERS AT SEGMENT 0, PRIORITY 0
S762
DO, FOR EVERY LISTENER, FOR EVERY OTHER LISTENER, UNTIL NO CHANGES:
NO CHANGES
S772
OUTPUT DATA STRUCTURE CONFIGURATION FILE
S764
READ MINIMUM TIME/MESSAGE REQUIREMENTS DATA
758
LISTENER REQUIREMENTS DATA
S766
WILL THE PARENT FIRE SUFFICIENTLY BEFORE ME?
YES
NO
S768
IF A TIME/NO. OF MESSAGES WINDOW REQUIREMENT MOVE THE LISTENER UP ONE SEGMENT
S770
IF NO TIME/NO. OF MESSAGES WINDOW REQUIREMENT INCREASE THE LISTENER PRIORITY BY ONE

Figure 7b

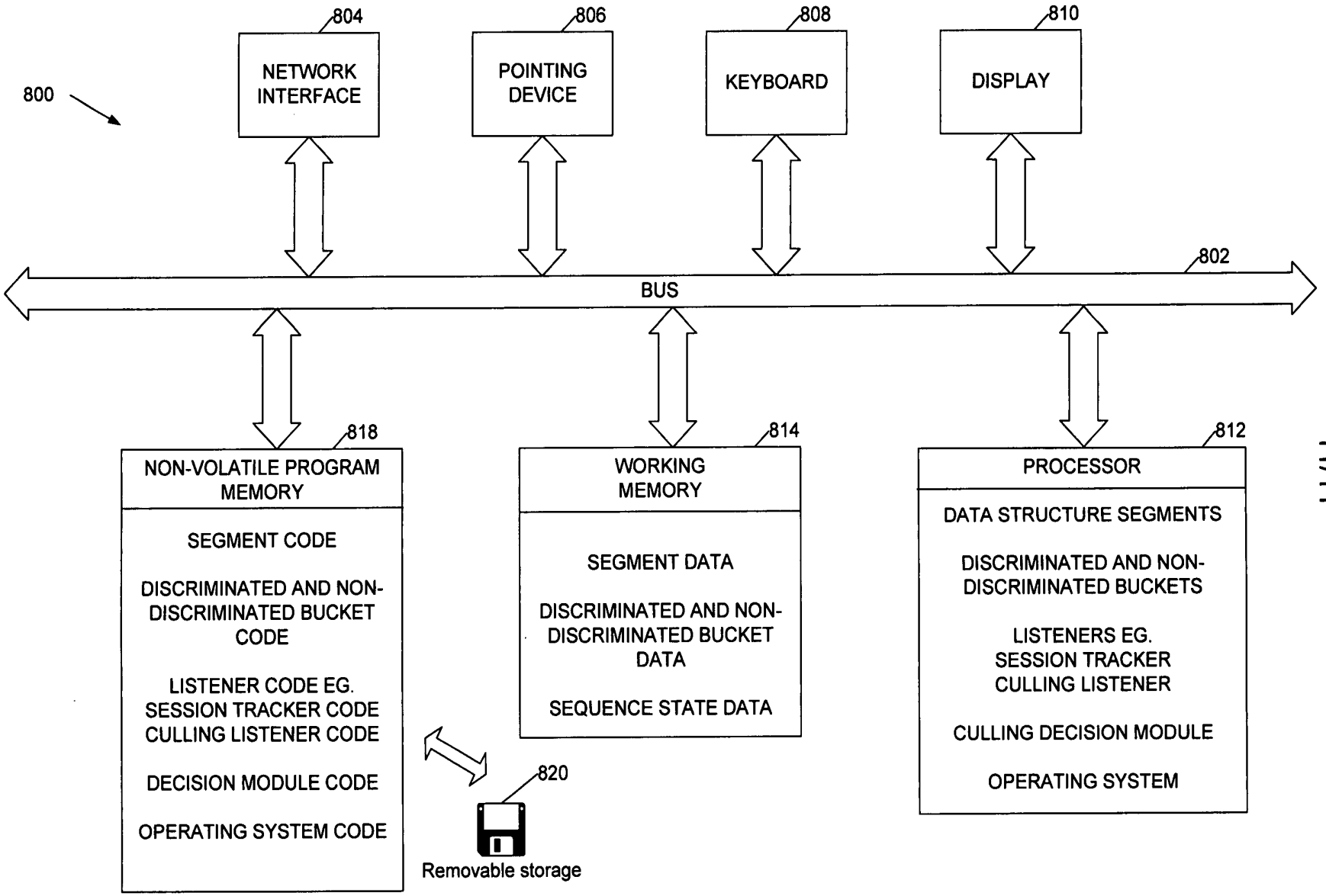
800
804
NETWORK INTERFACE
806
POINTING DEVICE
808
KEYBOARD
810
DISPLAY
802
BUS
818
NON-VOLATILE PROGRAM MEMORY
SEGMENT CODE
DISCRIMINATED AND NON-DISCRIMINATED BUCKET CODE
LISTENER CODE EG. SESSION TRACKER CODE CULLING LISTENER CODE
DECISION MODULE CODE
OPERATING SYSTEM CODE
814
WORKING MEMORY
SEGMENT DATA
DISCRIMINATED AND NON-DISCRIMINATED BUCKET DATA
SEQUENCE STATE DATA
812
PROCESSOR
DATA STRUCTURE SEGMENTS
DISCRIMINATED AND NON-DISCRIMINATED BUCKETS
LISTENERS EG. SESSION TRACKER CULLING LISTENER
CULLING DECISION MODULE
OPERATING SYSTEM
820
Removable storage

Figure 8